Standard Construction specification for New Two Storey Detached Dwelling 2012

Preliminaries.

Drawings:
This brief specification is to be read in conjunction with the relevant drawings and has been prepared to obtain Building Regulation Passing of Plans only.

Regulations:
All work is to comply with the relevant Building Regulations and all statutory notices are to be given to the Building Control department at the local authority at the appropriate stages. All contractors are to visit site to acquaint themselves with the layout and access to the site prior to tendering. If an approved inspector is used then the AI must notify the local authority that the building regulations will be carried out under the initial notice procedure.

Dimensions:
All dimensions to be checked on the drawing and on the site by the nominated contractor all discrepancies are to be notified to the agent.

Structural Engineer
It is the clients responsibility to engage the services of a Chartered Structural Engineer if any structural elements are to be designed (Steel or Timber Beams Etc) and to provide full structural details and supporting calculations to the Building Control Section of the Local Authority. Conditional Approval is requested for any structural elements.

Health And Safety :
Contractor, sub-contractors etc. to comply with Health and Safety Regulations during execution of the works.
Locate existing services before works commence. The use of CAT is advisable. Take all necessary precautions when carrying out any demolition works, forming new openings, excavations and working at roof or/and high level. For alteration work requiring new openings in walls or the removal of existing walls, the contactor is to follow the guidance in the Building Research Establishment 'Good Building Guides' 15 and 20 - ' Providing temporary support during work on openings in external walls' and 'removing internal load-bearing walls in older dwellings'.
Any live mains electrical cables within working distance to be sheathed / protected.
Please note that all the materials specified and the construction details shown are not to be changed) without the full knowledge and prior approval of the agent as any changes may have a detrimental ,effect on the designed/required carbon emissions of the structure as designed.

Rubbish:
Rubbish and debris must not be allowed to accumulate on site and is to be carted away to licensed tip as occasion demands. Site to be left clean and tidy on completion.

General
All dimensions are to be checked on site prior to the commencement of works. Any modifications considered an improvement by the contactor are to be submitted to the Local

Authority and comply with any approval necessary. All work to comply with current Building Regulations and good building practice. If the Contractor wishes to use any alternative materials to those specified, they must be submitted to the Building Control Officer and Planning Officer for approval. No work carried out under this specification will be valid unless full planning / building regulation permissions have been approved.

Structural Notes
All drawings and specification to be read in conjunction with structural engineers design and details. Contractor to ensure that no elements of existing structure to be removed are reliant upon the same for load bearing support.

Timber Treatment
All softwood timbers to be adequately treated to prevent infestation by the house longhorn beetle in accordance with current Building Regulations. All structural timbers, external frames, window & softwood cladding shall be treated against fungal attack All stuctural timber to be marked DRY or KD and to have stress grade mark

Foundations
To be a minimum 900x225mm deep concrete strip foundations, minimum depth 900mm. Actual type and depth of foundation to be determined on site following inspection of ground conditions by Local Authority Building Control Officer. If deemed ground conditions require more specialist foundations than those specified above, the Client must seek the advice of a Structural Engineer. All foundations to be taken down beyond any invert drainage levels.

External Walls

Cavity Masonry Below D.P.C.
Cavity construction comprising of 2 leaves of common concrete brickwork with cavity filled to ground level with weak concrete and with perpends left open @ 900mm centres on first course above ground level.

Cavity Masonry Above D.P.C. **(*Target- U-value: 0.28 W/m^2°K.)***
300mm cavity construction, consisting of 100mm facing brick outer leaf, 100mm cavity, 100mm Thermal block work (min 3.5N strength), Cavity insulation to consist either full fill Dritherm OR of 75mm Kingspan Thermawall TW50 (or similar) Provide galvanised steel cavity wall ties (750mm horizontally, 450mm vertically, decreased to 225mm vertically around openings). 12.5mm Superlux board cavity closer to top of wall. Close cavities at openings including installation of insulated vertical DPC.
ALL BRICKWORK TO BE AS PER APPROVED SAMPLES

Movement Joints
Generally to be provided at not greater than 12 metre centres for blockwork and 6 metre centres for brickwork. movement joints to be 10mm minimum wide, located behind rain water down pipes where possible and famed with proprietary polyurethane sealing strip, with flat ties between panels at 450mm vertical centres with one end de-bonded with poly-sulphide sealant to external face of brickwork/render - colour to match. Note : provide cavity wall ties within 150mm horizontally, at 225mm maximum vertical centres, either side of movement joints.

Cavity Trays
Provide cavity trays wherever roof abuts brickwork and at base of all cavity walls, fitted to current regulations and manufacturers spec.

Internal Masonry Partitions
100mm blockwork built centrally off foundations as noted above with d.p.c. & d.p.m. 3.5N/mm2 blocks to be finished with 12.5mm drylined construction and 2.5mm skim. All boards to be sealed at base to ensure satisfactory air tightness testing.

Internal Stud Work Partitions
63mm x 47mm softwood stud framing built between 63mm x 47mm sole & head plates, with studs @ 600mm closed centres max, noggins @ 900mm closed centres, & with 75mm x 75mm jambs to openings; finished both sides with 12.5mm Gyproc wallboard plasterboard & skim with 25mm isowool insulation laid between studs.

Lintels
All lintels (unless subject to engineers design) to be Catnic insulated steel lintels as indicated on drawing (or similar) over all new openings, 150mm end bearing to all lintels.

Ground Floor ***(Target- U-value: 0.22 W/m²°K.)***
75mm thick screed finish on 500 guage visqueen on 100mm Kingspan Thermafloor T70 insulation (or similar) turned up at all edges on 1200g visqueen dpm, on 25mm sand blinding, over a minimum of 150mm crushed limestone hardcore. All new dpc's to be minimum 150mm above ground level and to lap into dpm. If excessive made up ground is present beneath slab, then either remove fill down to good ground and build up levels in 150mm layers of crushed limestone hardcore, mechanically compacted at each level or provide engineer’s details of suspended slab or beam and block floor. All to the satisfaction of the local authority building control surveyor.

Roof Trusses
Prefabricated trusses and mono pitch trusses to BS5268 PT 3 1985 at 600mm centres with joints connected using plates all in accordance with current Agreement Certificate. Trusses to be designed and manufactured by specialists.

Outer three trusses (ceiling joist and rafter levels) to be tied back to gable end walls using 32mm x 6mm straps built into wall and turned minimum 100mm down into cavity at 2000mm maximum centres. Straps to be additionally supported with noggins. Gable ladders to be built in solid.

All trusses secured to 100mm x 50mm wall plates using galvanised shoes positioned on inner skin of cavity walls. Wall plates to be strapped down inner skin of wall with 32 x 6mm galvanised straps at 2000mm maximum centres.
All strapping and bracing as recommended by the truss manufacturer and to BS 5268 PT 3 1985.

Roof space access to be via sealed trap installed in agreed position on second floor landing. Conditional approval is requested on this item.

Roof .**(*Target 'U' value of 0.16 W/m2°K at Ceiling Level or 0.18 W/m2°K at sloping levels)***
Covering to concrete interlocking tiles on 38 x 25mm s/w battens on "tyvec" breathable roofing felt or similar on roof trusses, 1 layer of 150mm glass fibre insulation laid between ceiling joists and an additional layer of 150mm laid over joists opposite way to first layer. Provide proprietary rafter trays to ensure insulation does not obstruct the air flow. (or similar to achieve minimum U value of 0.16)
Any sloping parts to the roof to be battened out to provide 120mm rafter depth. 100mm Kingspan K7 pitched roof board between rafter sections, fitted level with base & underdrawn with 24mm Kingspan K17 insulated plasterboard to achieve a minimum U value of 0.18)

Additional Ventilation To Roofs
Provide continuous 10mm wide ventilation gap to eaves and the equivalent of 5mm continuous ventilation gap (tile vents) at ridge level All open ventilation to receive proprietary anti vermin mesh.

Anchor Straps / Wallplate Bolting
30mm x 5mm galvanised anchor straps to be fixed at rafter, floor and ceiling joist levels where running parallel to any external or separating walls. All to be securely fixed at maximum 1800mm centres and tied down wall minimum 450mm & span over joists, rafters & trusses 1200mm minimum.

Flashings
Code 4 lead flashings to all abutments & stacks; turned up masonry for at least 75mm; dressed 25mm into mortar bed, fixed with lead wedges pointed in.
In cavity walls; insert cavity trays over flashings & lintels including weep vents.
S,V.P's, mechanical vents penetrating roofs to have proprietary flashings.

Ceilings
Generally to be 12.5mm plasterboard and 3mm skim to underside. Min 30 min fire check to all structural steelwork.

First Floor
22mm tongued & grooved flooring grade chipboard on 220 x 47mm C16 timber joists at 450mm centres. lined on underside with plasterboard and skim.
Joists to be supported off proprietary galvanised joist hangers. Joists to be doubled under line of any partitioning above and around stairwell. Joists to be secured to trimmers via proprietary galvanised joist hangers.

Full depth noggins to be fixed at centre span on joists over 2400mm long. All bearings to be 100mm,where joists run parallel to external walls Bat M305 galvanised mild steel straps to be fixed at a maximum 1200mm centre's, secured to first three joists and built into walls.

Any notching for services info floor joists to be kept to a mini mum and where necessary minor notching to occur as close as possible to end bearings.

Floor void between joists to be filled with 100mm unfaced mineral wool with min density of 10kg/m3.

Restraint Straps
Supply and fix 30 x 5mm galvanised steel straps as follows:-
At gables: across 3 rafters @ 2m closed centres max, to inner leaf of masonry across 3 joists @ 2m closed centres max, to inner leaf of masonry.

Bolt wallplates @ 2m closed centres max to blockwork.

Joists & rafters to be nogged with 44mm x 44mm S.W. under straps and wedged to masonry.

Below Ground Drainage
New back inlet gullies, and direct connections, to be connected to inspection chambers in 110mm diameter plastic drainage pipes laid to min 1:40 all connected to existing drainage system.

Drains are to be sleeved through walls and foundations with a flexible joint outside building perimeter. Both sides to be masked with rigid rot-proof material. Drain runs less than a meter from the building Cass X concrete surround.

Chambers to be proprietary plastic or g.r.p. bedded on, & in, lean mix concrete. In vehicular areas chambers to have heavy duty cast iron frames and covers. Elsewhere chambers to have lightweight pressed metal covers and frames.

Above Ground Foul Water Drainage
Sinks to be fitted with 75mm deep seal trap connected/, to 40mm PVCu waste pipes discharging into new gully or SVP.
Basins to be fitted with 75mm deep seal trap connected to 32mm PVCu waste pipes discharging into new gulley or SVP.
WC,s to have 100mm PVCu waste pipes connected either directly to underground system or SVP.

Surface Water Drainage
100 half round UPVC gutters with 75mm dia. UPVC downpipes discharging into a back Inlet Gully.
Drains : 110mm UPVC pipes all as for foul drains laid to a fall of approx. 1 in 100 terminating at new soakaway. New soakaway to be sited min 5000mm (6500mm if in clay) from any building, Soakaway(s) to be constructed using 215mm honeycomb brickwork or perforated concrete rings all surrounded with clinker or large stones. Top to receive concrete cover.
2 No. 1050mm Dia soakaways 1500mm deep (measured from the invert of the lowest incoming pipe) as indicated on site plan.
Individual soakaway capacity = 1 .575m3

Paved areas / footpaths etc. to be laid to fall away from building. Edges of paved areas to be finished either flush with or above adjacent ground.

Glazing

All glazing to be double glazed sealed units into new uPVC frames with Pilkington "K" glass, to comply with Part L Building Regulations with a minimum 16mm air gap to achieve a minimum U value of 1.8 Any glazing to windows under a height of 800mm and to doors under 1500mm to be safety glass. Any glazing in adjacent panels within 300mm of doors to be safety glass, trickle vents to be fitted to all new windows to provide background ventilation of 8000 sq mm per habitable room. any glazing to a habitable room must have provision for an emergency fire escape windows as indicated to have unobstructed operable area at least 0.33m2 and at least 450x450rnm clear opening. opening to be no more than 1100mm from floor level and no less than 600mm from floor level.

Staircase

Staircase to be constructed of softwood timber to sizes as noted below and as shown on staircase details.
Headroom to be 2m minimum measured vertically above pitch line.
Handrail Heights:- 900mm above flights, 1100mm on landings.' Balusters to be equally spaced with gaps less than 100mm.
Treads:- 25mm MDF with maximum goings of 220mm.
Risers:- 25mm PLYWOOD with maximum rise of 220mm.

Manufacturer to take dimensions BEFORE commencing manufacture.

Mechanical Ventilation

Mechanical ventilation be provided as follows:-

Kitchen:	60 litres/second OR (30 l/s if cooker using hood);
Utility:	30 litres/ second;
Bathroom:	15 litres / second with 15 min over-run timer;
Cloaks:	Either 6 litres/second OR 3 air changes per hour (which ever is greater). Fan to have 15 minute over-run timer.

Allow 20mm gap between bottom of door and floor finish.

Electrical Work

All electric work to comply with approved document P (electrical safety) must be designed, installed, inspected and tested by a person competent to do so. Prior to completion the L/A should be satisfied that the part P has been complied with. This may require an appropriate BS 7671 electrical installation certificate to be issued by a person competent to do so.

New internal electrical lighting to use "Philips 14 watt energy saver lamps" or similar recommended energy efficiency lamps, with a (Band A) approval.

Smoke Detectors

Linked smoke alarms to BS5446 to be fitted at each level of staircase (Hall, Landing & top landing) so that activation of one will trigger the others, to be wired into mains on a separate fused circuit with battery backup. Detectors to be sited on the ceiling and at least 300mm away from any wall. . If Kitchen is not separated from the staircase with a door then a interlinked heat detector will be provided to the kitchen.

Solid Fuel Appliance

Any solid fuel appliance and associated flue shall be designed and installed by a competent HETAS registered installer. Full details of appliance and flue pipe to be deposited with local authority prior to installation. (Conditional Passing of Plans requested).The installer will be responsible for the installation of air bricks necessary to ventilate the appliance but The room in which the appliance is fitted is to be provided with a permanent air vent opening with a total free area of at least 550mm2 per kW of appliance rated output above 5kW. The installer is to provide a commissioning certificate which must be left with the owner / end user and is to be made available for inspection by Building Control.

Carbon Monoxide Detector

A carbon monoxide detector must be sited in the same room as the appliance, on the ceiling then at least 300mm away from any wall or, if it is located on a wall, as high up as possible (above any doors or windows) but not within 150mm of the ceiling. And between 1M and 3M horizontally from the appliance. Any carbon monoxide detectors used must comply with BS EN 50292:2002 and follow the manufacturers installation guidelines.

Heating

Provide new gas central heating system. Radiators to be sited in room with the required kilowatt output as calculated by the GAS SAFE registered plumbing and heating engineer – positions to be agreed with the client.

The installation of any gas appliances shall comply in all respects with part j of the building regulations and gas safety regulations 1984. All heating systems are to be fitted with thermostatic radiator valves as standard.

Commissioning

Upon commissioning the maintenance and operational instructions for room thermostats to be provided and displayed in suitable location on to be determined and agreed on site. Commissioning certification to be provided for Boiler and central Healing system. Occupant to be provided with operating and maintenance instructions from installer.